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CL 04B Unclas

a. Title: Monitor Weather Conditions for Cloud Seeding Control

ERTS-A Proposal No.: 642

b. GSFC ID No. of P.I.: IN 024

- c. For the period from July 1, 1973, through August 30, 1973: There are no problems impeding the progress of this investigation.
- d. Progress during this period and plans for next reporting period:
 - 1. The two summertime stations Wolf Creek North and Wolf Creek Pass have been working satisfactorily throughout the period.

Very little maintenance or repair work was required during the summer period since no problems were encountered at either of the two installations. On September 10, a servicing trip was scheduled to Wolf Creek Pass site when ERTS-received data indicated that the precipitation accumulation gage needed to be emptied and recharged. The data which led to the decision to empty the gage are given in Table 1. Note that gage servicing was accomplished between 1621 and 1758 gmt (1021 to 1158 mdt) on September 10.

2. During the upcoming season, five stations will be re-established at: Muleshoe, Lime Mesa, Runlett, Castle Creek, and Palisade Lake. Precipitation gages will be located at Lime Mesa, Palisade Lake, Castle Creek, and Wolf Creek Pass to facilitate precipitation measurement throughout the barrier of the cloud seeding target area.

All stations will be equipped with recharged gel-cell batteries. However, Wolf Creek Pass battery will remain unchanged to monitor longevity and help bring about scheduling of replacement of batteries at all sites.

- 3. On September 25, 1973, Western Scientific Services, Inc., installed the first of five new sites. The Pagosa Peak station was relocated to Palisade Lake and checkout was begun. See Table 2 and Map 1.
- 4. A redesign of the temperature aspirators is being made to minimize solar effect and will be in service at the time of installation at all sites which require temperature measurements.

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E7.3-11.0.7.1. NASA- CR-135540

MONITOR WEATHER CONDITIONS FOR CLOUD SEEDING CONTROL

Archie M. Kahan Bureau of Reclamation Denver, CO 80225

September 30, 1973

Type I Progress Report for Period July 1, 1973, through August 30, 1973

Prepared for:

Goddard Space Flight Center Greenbelt, MD 20771

- 5. The platform visibility will be taken for each site for hard and soft obstacles (trees). These data will be compared with the platform visibility statistics of orbits per day and messages per orbit. An effort will be made to determine what value theodolite observations are in predicting the platform visibility statistics.
- e. Significant results during the last reporting period:

Wolf Creek Pass and Wolf Creek North were exposed to general public throughout the summer tourist season and have both come out unmolested. However, a future period of mid-September to mid-November, hunting season, will tell if the green antenna dome is a suitable target.

- f. Publications: None
- g. Recommendations: None
- h. Changes in standing order forms: None
- i. ERTS image descriptor forms: N. A.
- j. No changes were made in data request forms during the reporting period.
- k. Three DCS platforms are in place. Two are operational and one is in the checkout mode. The remaining four are being prepared for installation.

Wolf Creek Pass ERTS Data: September 4 - September 11

WLF	CRP	2	20:1	6 CS	ss ·	TUE	09/11/	7.3						
100	6241					WOLF	CREEK	PASS		•*				
110	DA	TE		ннмм	SS	С	TEM	TVO	TVO	TVO	PCP	TVO	HSV	BAV
120						•	C	BIT	BIT	BIT	IN.	BIT	V	V
~5 00	SEP	3	73	1733	46	7	13-1	0.0	0.0	0.0	10.8	0.0	2.5	12.6
510		5		1736		7	13.4	0.0	0.0		10.8	0.•0		12.6
520		6		0317	33	7	7.2	0.0	0.0		10•ន	0.0		12.5
530		6			56	7	-7•2	0.0	0.0		10·8	0.0		12.5
	SEP	6		0324		7	6 • 9	0.0	0.0		10.8	0.0		12.5
550		6		0500		7	5.3	0.0	0.0		10.8	0.0		12.5
560		6		0503		7	5+0	0.0	0.0		10.8	0.0		12.5
5 70	SEP	6		1551	10	7 7	12•7 12•7	0.0	0.0		10.8	0.0		12.5
	SEP	6 7		1554 0325		7	4.0	0.0	0.0		10.8	0.0		12.6 12.5
	SEP	7		.0329		7	4.0	0.0	0.0		10•8 10•8	0 • 0 0 • 0		12.5
	SEP	7		0506		7	3 • 7	0.0	0.0		10.8	0.0		12.4
	SEP	7		0509		7	3 • 7	0.0	0.0		10.8	0.0		12.4
	SEP	7			14	7	13•1	0.0	0.0		10.8	0.0		12.5
	SEP	7	73	1739		7	14.7	0.0	0.0		10.8	0.0		12.6
	SEP	7		1742		7	14.7	0.0	0.0		10.8	0.0		12.6
6 60	SEP	7	73			7	14.7	0.0	0.0		10.8	0.0		12.6
	SEP	Ø		0329		. 7	7.6	0.0	0.0		10.8	0.0		12.5
680	SEP	8	73	0332	36	7	7.2	0.0	0 • 0	0.0	10.8	0.0		12.5
690	SEP	8	73	0336	01	7	7 • 2	0.0	0.0	0 • 0	87.2	0 • 0	20 • 1	95.6
	SEP	8		0512		7	5.0	0.0	0.0		10.8	0.0		12.4
710		8		0515		7	5•0	0.0	0.0	ૂ0 • 0		0 • 0		12.4
	SEP	8		1604		7	10.2	0.0	0.0		10.9	0.0		12.5
7 30	SEP	8		1607		7	10-2	0.0	0.0		10.9	0.0		12.5
	SEP SEP	용 8		1747		7 7	12•1 12•1	0.0	0.0		10.9	0.0		12.5
	SEP	R		1754		. 7	12.1	0 • 0 0 • 0	0+0 0+0		10•9 10•9	0 • 0 0 • 0		12.5 12.5
	SEP	10			16	7	7.9	0.0	0.0		10.9	0.0		12.4
7 80	SEP	10		0345		7	7.9	0.0	0.0		10.9	0+0		12.4
7 90	SEP	10		0521	59	7	7.2	0.0	0.0		10.9	0.0		12.4
800	SEP	10		0525	26	7	7.2	0.0	0.0		10.9	0.0		12.4
810		10			53	7	6.9	0.0	0.0		10.9	0.0		12.4
	SEP	10		1614		7	4.3	0.0	0.0		11.2	0.0		12.4
820 830	SEP	10	73	1614		7	4.3	0.0	0.0	0.0	11.2	0.0		12.4
8 40	SEP	10	73	1617		7	4.3	0.0	0.0	0 • 0	11.2	0.0	2.5	12.4
8 50	SEP	10	73	1617		7	4.3	0.0	0.0	0 • 0	11.2	0.0	2.5	12.4
8 60	SEP	10	73	1621	01	7	4+3	0.0	0.0	0 • 0	11.2	0.0		12 • 4
870	SEP	10	73	1758		. <u>7</u>	5 • 6	0.0	0.0	0 • 0	5.0	0.0	2.5	12.4
880	SEP	10	73	1802	14	7	5•6	0.0	0.0	0+0	2.0	0.0	2.5	12.4
8 90 9 00	SEP SEP	11	73 73	0347	23 54	7 7	3•0 3•0	0.0	0.0	0.0	2.5	0•0 0•0	2.5	12•4 12•4
910	SEP	1 1	- 73	0350 0529	22	7	1.7	0•0	$0 \cdot 0$	$0 \cdot 0$	2.6	$0 \cdot 0$	2.5	12.4
920	SEP	1 1	73	0532	53	7	1 • 1	0.0	0•0	0.0	۷•٥	0.0	Z • 3	16 • 4

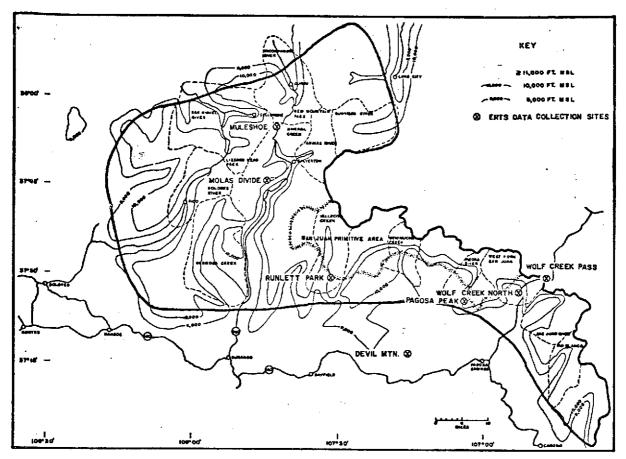
Table 2

ERTS PROGRAM

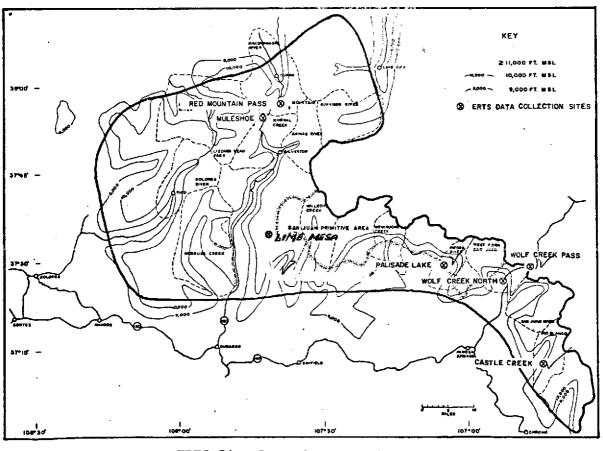
Recommended Changes in Station Configuration

	nfiguration	New Configuration					
Site	Parameters	Site	Parameters				
Muleshoe	Rime ice	Muleshoe	No change				
	Temperature	1	No change				
	Wind speed	1	No change				
	Wind direction	1	No change				
	Radiation		No change				
	Battery voltage		No change				
	Humidity		No change				
	Muleshoe battery		No change				
	1		No change				
Wolf Creek North	Streamflow	Wolf Creek North	Increase resolution				
•	Water temperature	1	No change				
	Battery voltage	1	No change				
		1	onange				
Wolf Creek Pass	Temperature	Wolf Creek Pass	Radiation shield				
	Precipitation		No change				
	Battery voltage	1	No change				
•		1	ino change				
Molass Divide	Temperature	Lime Mesa	Radiation shield				
	Precipitation	1	No change				
	Battery voltage	1	No change				
		1	no duange				
Runlett Park	Temperature	Runlett Park	No change				
	Wind speed	*	No change				
	Wind direction		No change				
	Relative humidity	I	No change				
	Battery voltage		No change				
Devil Mountain	Temperature	Castle Creek	Radiation shield				
	Wind speed	(INSTAAR)	Omit				
	Wind direction		Omit				
	Battery voltage	1	Omit				
		1	Add precipitation				
•		1	i mad precipication				
Pagosa Peak	Temperature	Palisade Lake	Radiation shield				
	Snow pillow		Snow pillow				
	Battery voltage	•	Battery voltage				
	1		Add precipitation				
	E		E K+Threatton				

ERTS PROGRAM RECOMMENDED CHANGES IN STATION LOCATIONS



ERTS Site Locations - Spring 1973



ERTS Site Locations - Fall 1973